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ABSTRACT

This paper examines typical explanations offered for the existence of an "earnings gap" between male and female educational administrators, evaluates the relevance of these explanations, and proposes and tests a model process for detecting gender bias in the compensation of school administrators. Common explanations for male/female wage differentials include occupational segregation (involving overabundance of the labor supply in female-dominated fields) and work-related factors that may covary with gender (such as education, experience, and career aspirations). In the male-dominated field of educational administration the occupational segregation explanation fails to apply; women's occupation of lower status positions may account for pay differences more effectively. Education and aspiration appear not to account significantly for salary differences, but some differences may be attributable to experience levels. A model for determining the extent to which sex bias accounts for remaining administrator salary differences was tested in 11 public school systems in a midwestern state. Twenty female and 88 male elementary school principals made up the sample. Professional experience was found to account for 16 percent of the variance in compensation; educational level accounted for less than 1 percent; and nearly 25 percent was accounted for by gender. A 24-item bibliography is provided. (PGD)

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ADMINISTRATIVE COMPENSATION: A PRELIMINARY INVESTIGATION OF THE MALE/FEMALE SALARY DIFFERENTIAL

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ABSTRACT

The issue of an "earnings gap" between male and female salaries in educational administration has received little attention in the literature. This paper addresses the typical explanations for a salary differential and discusses the methodology recommended to detect gender bias in compensation. This methodology was applied to a sample of educational administrators' salaries, with results indicating that a statistically significant portion of variance in administrators' salaries was attributable to gender.

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ADMINISTRATIVE COMPENSATION: A PRELIMINARY INVESTIGATION OF THE MALE/FEMALE SALARY DIFFERENTIAL

The concept of equity in employment and compensation has been and continues to be a major concern for administrators in the public and private sectors. The focus on equity issues has been more pronounced since the early 1960's with the proliferation of equity legislation and regulation.[1] At the same time, the work force composition has undergone a major change with a large influx of women into the labor market.[2] The presence of significantly more women in the labor force has raised the question of comparable worth (equal pay for work of comparable value) as well as drawn attention to the existing legislated standard of equal pay for equal work (Equal Pay Act of 1963).

Increasingly, policy makers and researchers have become more aware of and concerned over the "earnings gap" between male and female workers. Compensation analysts have suggested explanations for this wage differential and have explored methods for detecting gender bias in compensation. However, verification of wage discrimination has proven to be a complex and cumbersome task with inconclusive results. In spite of this concern for equity in compensation, a review of sex equity issues addressed in major educational administration journals revealed that there were no published articles addressing the issue of sex equity in the compensation of school administrators (Marshall, 1984).

Therefore, the purpose of this paper is to explore the problem of the male/female wage differential for educational administrators by examining the typical explanations for an earnings gap and evaluating the relevancy of these explanations for this occupational group. Further, a model for detecting gender bias in compensation will be applied to a sample of school administrators' salaries to test the effects of gender in accounting for salary differentials.

EXPLANATIONS FOR A MALE/FEMALE WAGE DIFFERENTIAL

Across all occupational groups, the median weekly earnings of full-time women workers is reported to be approximately 59% of the earnings of men (U.S. Dept. of Commerce, Bureau of Census, 1975). For the occupation of school administrator (elementary and secondary), the median weekly earnings of female administrators is reported to be 69.9% of male administrators (Bureau of Labor Statistics, 1982). While this salary differential would suggest potential gender bias, descriptive statistics alone do not adequately provide evidence of wage discrimination. In order to account for differential salaries of men and women, a number of issues must be examined. The most typical explanations for a male/female wage differential in the labor market include occupational segregation, and work-related factors which may covary with gender (e.g. education, training, experience, commitment to work and career aspirations).

Occupational Segregation

The first of these explanations, occupational segregation, refers to the clustering of women into limited fields (e.g. clerical work , nursing, education, and many service occupations), consequently driving market wages down because the labor supply exceeds the employment demand in these fields. In fact, one study suggested that occupational segregation accounted for as much as 70% of the salary differential for married white college graduates (Chiswick, Fackler, O'Neill, & Polachek, 1974). While this clustering principle may be applicable to the teaching profession, which is almost 70% female, the same rationale would seem inappropriate for explaining differential salaries in educational administration, which is only 10% female (National Center for Educational Statistics, 1979).

Within the ranks of school administrators, however, a type of occupational segregation may exist due to the clustering of women into the elementary principalship or central office staff positions (McCarthy & Zent, 1982; Stockard & Kempner, 1981). Howard (1975) indicated that only 1% of superintendents and 7% of secondary principals were female, while 18% of elementary principals were female. Therefore, though only 10% of school administrators are female, the largest portion of these women are clustered into a few specific administrative positions.

The effect of this "position segregation" is further compounded by the fact that women who are appointed to supervisory positions often have different job titles with lower status than men who have similar duties (Johnston, Yeakey, & Moore, 1980). Also, Kincaid (1976) pointed out that 75% of public schools had a decreasing salary schedule for senior high, junior high, and elementary school principals, respectively. Other guidelines for compensating administrators often recommend a decreasing schedule for secondary and elementary principals (Herman, 1977). The salary implications for women due to these role differences and compensation policies are apparent when examining the statistics regarding mean salaries for these positions across the country (See Table I).

Therefore, though the typical explanation of occupational segregation would be inappropriate as applied to the occupation of educational administration overall, the analagous concept of position segregation could account for the reported lower salaries of females within the field of educational administration. The fact that more women are found in the less prestigious, lower paying administrative posts could explain some of the earnings gap in the salaries of male and female administrators.

[Insert Table 1 About Here]

The Covariance of Work-Related Factors With Gender

Women workers are often cited as having less education, training, and experience than men due to their relatively recent entry into the labor force in large numbers. These differences in job qualifications would serve to keep women's wages down. This may hold true in many cases, but it does not seem to explain adequately the total issue of wage differential. In a study by Binder (1973), even when educational level and occupation were held constant, there was a significant difference in the lifetime earnings of white males and females. In addressing the effect of differential experience level on wages, Sawhill (1973) found that single women (whose average job tenure was about the same as that of men in the same age bracket) had age earning profiles that were almost identical to those of married women. She found that continuous work experience only raised women's average earnings from 56% to 57% of that of men's earnings.

Examining these same job qualifications as applied to school administrators, it appears that the numbers of women receiving education and training for administrative posts has been increasing. For instance, the number of women earning masters degrees in educational administration increased from 21% in 1971-72 to 39% in 1977-78. Over the same time period, the number of women earning doctorates in educational administration increased from 6% to 25% (Frasher and Frasher, 1979; National Center for Education Statistics, 1979). In a study of New Jersey administrators, Johnston et al. (1980) found no significant difference in the academic qualifications of male and female administrative candidates. With the strengthening of certification laws in most states over the past decade, there could be little or no difference by definition between the educational level of male and female administrators. Therefore, it is doubtful that educational levels account for a significant salary differential for male and female school administrators.

However, when examining differences in experience, male and female administrators typically have different profiles which may have implications for a salary differential. Research findings have indicated that men tend to advance faster with less experience than do women. McQuigg and Carlton (1980) cited several studies indicating that men tend to gain access to administrative positions with fewer years of teaching experience than do women. If that is the case, women in administrative positions may have as much or more professional experience in education as men, but may have fewer years of experience in an administrative role. This difference could result in differential salary treatment, especially if administrative experience is more highly rewarded than total professional experience.

Women are also thought to have less commitment to work and career development, as well as lower career aspirations, thus keeping them from becoming as upwardly mobile as their male counterparts (Smith, 1979). However, there is evidence to suggest that commitment to work is generally more a function of job status than of gender, with males and females in lower status positions exhibiting less commitment to work (U.S. Department of Labor, Women's Bureau, 1969). Further, changing societal/cultural patterns indicate there there is now a tendency for married women to establish their careers before having families, and to stay in the labor market through those child-rearing years. Women are also finding themselves as principal supporters of their families, thus increasing their work life expectancy. In fact, in 1977 the average woman could expect to spend 27.6 years of her life in the work force as compared to 38.3 years for men (U.S. Department of Labor, Women's Bureau, 1980).

Examining the issues of commitment to work and career aspirations among educational administrators, there are some contradictory indicators in the literature. Evidence that female administrators have a strong commitment to

work and high career aspirations is supported by the increasing number of women earning advanced degrees in educational administration (National Center for Education Statistics, 1979). The literature has also indicated that women entering or preparing for administrative careers show no significant difference in ambition than do their male colleagues (Adkinson, 1981). In fact, one study indicated that of those women who had already entered school administration, 43% of female assistant superintendents aspired to the superintendency as opposed to only 32% of their male counterparts (McCarthy & Zent, 1982). However, in a study cited by McQuigg and Carlton (1980), 51% of beginning male teachers aspired to school administration, while only 9% of single women, 8% of married women, and 19% of widowed, separated, or divorced women had similar aspirations, indicating that fewer women in the field of education aspired to administrative roles. The implications for salary differentials are difficult to draw, but it would seem that once women have made a commitment to training and job search in administration, their drive for upward mobility should not impair the likelihood of salary and career ascendency.

In reviewing some of the key issues related to salary differentials for men and women, administrative position (position segregation) and administrative experience (vs. total professional experience) are likely to be the two most relevant explanations of a lower salary for women than for men in educational administration. The other major variables, educational level and commitment and aspiration to the occupation, are much less likely to be significantly different for women than men in the field.

GENERAL MODEL FOR DETERMINING WAGE DISCRIMINATION

The general model for determining wage and salary discrimination is to: (1) estimate the portion of the male/female differential that is attributable to work-related factors; and (2) infer the remaining portion of the differential is due to wage discrimination (Milkovich, 1981). Studies using this model have suggested that the portion of the wage differential attributable to discrimination ranges from 12% to 70%, depending on the samples, methods, and data sources used (Kahne and Kohen, 1975; Sawhill, 1973). An identified flaw in this model, however, is that the fewer work-related factors accounted for, the greater the residual accountable to discrimination. Consequently, identification and control of as many of these work-related factors as possible would enhance the likelihood of valid results.

The work-related factors generally recommended for consideration in the model are:

(1) Work-related differences in male/female workers (e.g. education, training, experience);
(2) Differences in employee work behaviors (e.g. performance, absenteeism, turnover);
(3) Differences in work content and work responsibilities;
(4) Differences in union membership and union characteristics;
(5) Differences in employers and in industries;
(6) Differences in labor market conditions and regions.

(Milkovich, 1981)

Most studies investigating the male/female wage differential have utilized or controlled for some of these factors, but none have been able to control for all of these work-related factors. In general, researchers have been hampered by the lack of publicly available data and the inability to measure directly some of these variables. While "proxy" measures have often been substituted (e.g. absenteeism for work performance), many of these proxies have fallen short of adequately capturing the definition or essence of the prescribed factor (Milkovich, 1981).

AN INVESTIGATION OF THE SALARY DIFFERENTIAL FOR SCHOOL ADMINISTRATORS

Methodology

In order to appropriately apply this prescribed model to the salary differential problem in educational administration, as many of the relevant work-related factors as possible needed to be controlled for or measured and entered into the model. Several of these factors (i.e. differences in work content and responsibilities, differences in employers and in industries, and differences in labor market conditions and regions) were controlled through sampling. Some work-related variables (i.e. education and experience) were measured and entered into the model. One factor (union membership and union characteristics) was considered inapplicable to the occupational group of educational administrators. A final variable (differences in employee behaviors) was unable to be addressed due to the lack of available data.

The sample consisted of 11 public school systems in one midwestern state. The school systems were selected and identified due to their comparability in size, type, and regional location, thus constituting a relevant labor market for one another.

The administrative position chosen for analysis was the elementary principalship due to the scarcity of women in other administrative roles. Also, this position was held constant to reduce the salary variability due to the type of administrative position and work content, a previously identified explanation for a male/female salary differential. The sample included 20 women and 88 men, constituting a representative distribution of women for that administrative position. Data collected included sex of administrator, educational level (B.A., M.A., Educational Specialist, Ph.D.), total years of professional experience in education, and total compensation (salary plus benefits) adjusted for length of annual contract.

Salary data were analyzed by using a multiple regression technique to detect sex bias in compensation (Pezzullo and Brittingham, 1979). This technique involves the regression of salary on a set of predictor variables as well as the regression of salary on those same predictor variables with the addition of gender as a dummy variable. An incremental F-test is then done on the difference between R^2 values of these two regressions to discover if gender explains a significant portion of the variance in salary. If that is the case, results would suggest that the compensation system is sex biased.

Therefore, in this study, monthly compensation (salary plus benefits adjusted for length of contract year) was regressed on two predictor variables, total professional experience and educational level, plus the subsequent addition of gender as a variable. Results are shown in Table II.

[Insert Table II About Here]

Results and Discussion

Descriptive statistics regarding the compensation of the elementary school principals sampled indicated that male administrators earned, on average, $136 more per month than did the female administrators. Evidence of gender bias in the salaries of these school principals is also suggested by inferential statistical analysis. The difference between the R^2 values of the two regression equations (with and without gender as a predictor variable) was found to be statistically significant ($p < .01$), accounting for 5.8% of the variance in salaries.

The significance of professional experience in explaining salary variability was similarly analyzed and found to be statistically significant ($p < .01$), accounting for more than 16% of the variance in compensation. The impact of educational level, however, was non-significant in predicting administrator salaries, accounting for less than 1% of the salary variability. (This result

is not surprising given the restricted range of educational level for the sample of school principals, 91.6% of whom had a masters degree).

Overall, results of the data analysis indicated that the total contribution of experience, education, and gender to the variance in administrative salaries was only 23.1%. These results would suggest a problem of underspecification, indicating a need for inclusion of more predictor variables in the regression analysis. Specifically, the variable of total professional experience in education should be broken down by years of administrative experience and years of other professional experience (e.g. teaching experience). This distinction may be important due to the previously identified difference between the career profiles of male and female school administrators.

Another important variable which was not included in the analysis due to a lack of available data, was a common measure of job performance. However, there is reason to believe that variability in job performance would be randomly distributed across male and female subjects because numerous studies have repeatedly indicated that female administrators are perceived as being as effective, if not more effective, in the leadership role as their male counterparts (Adkison, 1981). Though the inclusion of these additional predictor variables and their contribution to salary variability might well reduce the portion of variance explained by gender, it is nonetheless significant that nearly twenty-five percent of the compensation variance explained was due to gender.

CONCLUSIONS AND IMPLICATIONS

The issue of an earnings gap between the salaries of male and female workers is becoming increasingly critical in the United States. The concern for

equity in compensation impacts not only on public and private sector employers and employees, but also on policy makers, legislators, and the courts.

The issue may be even more critical in the field of education, where employees are already expressing strong dissatisfaction with their level of pay relative to other professions. Further, an historically "female" occupation, such as education, stands to lose a corner on the female labor market as other occupational avenues continue to become more open to females. As women aspire to and obtain positions that were typically "male" roles (e.g. school administration), the impact of gender bias in compensation could serve as a further disincentive for women to pursue and remain in education careers. The migration of this employee pool to other fields would have significant impact on the number and general profile of personnel in education. Without the contribution and leadership of competent women, the field of education would suffer a major loss in human resources. This loss would be especially critical in view of the educator shortage anticipated in the late 1980's and 1990's.

As leaders and policy makers evaluate the issue of gender bias in compensation, it is important that they have accurate and reliable data related to the problem. The availability of these data not only could support the need for reform in compensation systems, but might also suggest methods for developing and evaluating alternative compensation policies and systems. The cost implications alone of closing the earnings gap call for well-informed, well-supported decision-making on the part of educational leaders and policy makers. There is therefore, substantial need for increased research addressing the problem of gender bias in compensation, especially in school administration where more women are entering the occupation. Such research would help clarify the extent of the problem as well as provide methods to address and remediate the salary differential.

In order to study the problem of gender bias in the compensation of school administrators, a number of recommendations are suggested to assure pertinent and valid findings. First, there is a need for the identification and accessibility of additional measurable factors thought to impact on administrators' salaries. For instance, publicly available administrative salary data often does not include such corresponding information as measures of job performance, work responsibilities, regional labor market conditions, or even gender of the job occupant. Without such data, it is difficult to apply a model to test effectively for the impact of gender on compensation. In addition, researchers, local school boards, and school superintendents collectively might examine and test school system criteria and methods for making administrative salary decisions against identified job-related compensation factors. Finally, more studies need be designed to investigate the problem on a regional or national basis. The findings from such studies would be more generalizable and consequently would carry more weight in affecting compensation policy revision.

The problem of a salary differential between male and female school administrators is beginning to be addressed by researchers in education. However, the earnings gap is a complex problem that is not likely to be understood adequately without the aid of more decisive research findings. If the field of educational administration expects to develop the capability to compete effectively in attracting administrators from the pool of competent females with leadership abilities, every effort must be made to promote nondiscriminatory practice in the compensation of these professionals. More informed understanding of the factors contributing to the earnings gap problem promises this possibility.

FOOTNOTES

[1]Equal Pay Act of 1963, Title VII of the 1964 Civil Rights Act, Executive Order 11375 of 1968, Equal Employment Opportunity Act of 1972, The Women's Educational Equity Act of 1974, The Comprehensive Employment and Training Act of 1978, Age Discrimination Act Amendment of 1978

[2]The female labor force participation rate rose from 28% in 1947 to 52% in 1982 (Bureau of Labor Statistics, 1982).

TABLE I

Public School Administrative Salaries

1981-1982

Position	Mean Salary ($\bar{X}$)
Superintendent	$46,664
Assistant Superintendent	$39,799
Senior High Principals	$34,766
Jr. High/Middle School Principals	$32,881
Elementary Principals	$30,242
Subject Area Supervisors	$29,083
Other Central Office Administrative Staff	$25,435

Source: Educational Research Service Report, 1982

Table II

Proportion of variance explained by experience, education, and gender as variables	$R^2 = .231$
Proportion of variance explained by experience and education	$R^2 = .173$
Unique variance added by gender	$R^2 = .058$
F for difference between the R^2 values	$F_{1,104} = 7.844 * p < .01$

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